

O. H. M. S.

W. J. Gerald
Deputy Minister.

LABORATORY
OF THE
INLAND REVENUE DEPARTMENT
OTTAWA, CANADA
BULLETIN No. 135
SPIRITUOUS LIQUORS

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SPIRITUOUS LIQUORS

W. J. GERALD, Esq.

Deputy Minister of Inland Revenue,

Ottawa.

OTTAWA, July 5, 1907.

SIR,—Consequent upon your letter (40602) of 27th December last, addressed to the late chief analyst, a collection of spirituous liquors was ordered to be made by Mr. Food Inspector Conklin, throughout the province of Saskatchewan. Twenty-two (22) samples were obtained, and the results of their examination are given in Table I. Special mention was made of Wolseley, Stockholm and Neudorf, as points of collection, and instructions furnished our inspector, made note of this; but the blocking of railways at the time (January) made it practically impossible to visit the two last named places.

Your further letter (41163) of the 30th January, authorized a similar collection throughout the province of Alberta. Forty-six (46) samples were obtained in February and March; and the results of their examination (except two samples which were broken in carriage) appear in Table II.

The immediate cause of this inspection, was the reported death of some persons who were thought to have been poisoned by the use of adulterated liquors. The samples which form the subject of this report, were obtained at public bars, &c.; and may therefore be taken to represent the average whiskey of the provinces in which they were sold. It is gratifying to find that no drugs, nor poisonous additions of any kind have been found in these liquors.

Particular attention has been given to the detection of methyl alcohol (wood spirit), since this is known to have poisonous properties. Its absence has been proved in every instance.

I beg to submit to you, for publication, as Bulletin 135, the accompanying records of work done upon these samples.

I have the honour to be, sir,

Your obedient servant,

A. MCGILL,

Acting Chief Analyst.

Preliminary notes.

1. Canada has no generally accepted, or legally established spirit strength for alcoholic liquors. The British Foods Act, fixes 75 per cent proof, as the limit of reduction by water. On the basis of such a standard, the whiskey samples herein reported, may be classified as follows:—

| | PROVINCE OF | |
|---|--------------------|----------|
| | SAS- KATCHEWAN. | ALBERTA. |
| Samples within 2 degrees of 75 per cent proof.. | 4 | 30 |
| " below 75 degrees proof..... | 12 | 5 |
| " above 75 " " | 5 | 9 |
| Total examined. | 21 | 43 |

Percentage of the number examined which are found to be equal to, or above 75 per cent proof strength:

| | |
|----------------------|--------------|
| In Saskatchewan..... | 43 per cent. |
| In Alberta..... | 89 " |

2. Preliminary testing for methyl alcohol has been done by the determination of the refractive index of a carefully prepared distillate at 20° C.; the spirit strength of the distillate being accurately known, any marked lowering of the refractive index, as compared with that of ethyl alcohol, of the same strength, indicates the necessity of a specific search for methyl alcohol.

Experiment has proved that working errors need not produce a deviation of more than 0.5 degree (Abbe Immersion refractometer scale); and that the presence of one per cent of methyl alcohol is certainly detected by the method, in a properly prepared distillate.

RECORD OF LIQUOR

TABLE I.—

| Date of Collection. | Nature of Sample. | Number of Sample. | Name and Address of Vendor. | Cost. | | Name and Address of Manufacturer or Furnisher. | Specific Gravity. |
|---------------------|-------------------|-------------------|--|-----------|-------|--|-------------------|
| | | | | Quantity. | \$ c. | | |
| 1907. | | | | | | | |
| Jan. 17 | Rye Whiskey... | 23933 | J. H. Kerr, Moosejaw. | 3 pts. | 1 50 | Gooderham & Worts, Toronto. | 9666 |
| " 17 | " | 23934 | McReberts Bros., Moosejaw, Sask. | 3 " | 1 60 | Gooderham & Worts, Toronto. | 9479 |
| " 17 | " | 23935 | Jas. Mundell, Moosejaw, Sask. | 3 " | 1 50 | Gooderham & Worts, Toronto. | 9515 |
| " 17 | " | 23936 | E. C. Mathews, Moosejaw, Sask. | 3 " | 1 50 | A. S. Mills, Moosejaw... | 9515 |
| " 18 | " | 23937 | J. E. Wheeler, Caron, Sask. | 3 " | 1 50 | Gooderham & Worts, Toronto. | 9517 |
| " 19 | " | 23938 | Stevens & Wilson, Swift Current, Sask. | 3 " | 1 50 | Gooderham & Worts, Toronto. | 9534 |
| " 19 | Rum... | 23939 | G. W. Webster, Swift Current, Sask. | 3 " | 2 00 | Brown & Wilson, Montreal. | 8732 |
| " 23 | Scotch Whiskey. | 23940 | Robt. Barry, Saskatoon, Sask. | 3 " | 2 00 | John Robertson & Son, Dundee, Scotland. | 9373 |
| " 23 | " | 23941 | H. Wilson, Saskatoon, Sask. | 3 " | 1 75 | Richard Belevier, Winnipeg. | 9345 |
| " 24 | Rye Whiskey... | 23942 | C. E. Mason & Son, Saskatoon, Sask. | 3 " | 1 50 | Gooderham & Worts, Toronto. | 9593 |
| " 24 | " | 23943 | D. Kennedy, Saskatoon, Sask. | 3 " | 1 50 | The Western Com. Co., Saskatoon. | 9578 |
| " 25 | " | 23944 | R. B. Fisher, Dundurn, Sask. | 3 " | 1 50 | The Western Com. Co., Saskatoon. | 9557 |
| " 30 | " | 23945 | Wm. Harris, McLean, Assa. W. | 3 " | 1 25 | Gooderham & Worts, Toronto. | 9575 |
| " 30 | " | 23946 | W. R. Matchett, Balgonie, Assa. W. | 3 " | 1 50 | Gooderham & Worts, Toronto. | 9529 |
| " 31 | Scotch Whiskey. | 23947 | T. C. Allen, Qu'Appelle, Assa. E. | 3 " | 1 75 | Kirk & Horner, Qu'Appelle. | 9241 |
| " 31 | Rye Whiskey... | 23948 | R. T. Lord, Sintaluta, Assa. E. | 3 " | 1 25 | Gooderham & Worts, Toronto. | 9478 |
| Feb. 1 | Scotch Whiskey. | 23949 | Charles Newbury, Indian Head, Assa. E. | 3 " | 1 75 | J. D. Robertson & Son, Dundee, Scotland. | 9373 |
| " 1 | Rye Whiskey... | 23950 | Barnes & Ghatsky, Grenfell, Assa. | 3 " | 1 50 | H. Walker & Son, Walkerville. | 9615 |
| " 2 | " | 23951 | T. W. Williamson, Walseby, Assa. | 3 " | 1 50 | Gooderham & Worts, Toronto. | 9475 |
| " 4 | " | 23952 | T. G. Dixon, Moosomin, Assa. | 3 " | 1 50 | | 9483 |
| " 4 | Scotch Whiskey. | 23953 | S. B. Anderson, Moosomin, Assa. | 3 " | 1 75 | J. D. Robertson & Son, Dundee, Scotland. | 9400 |
| " 4 | Rye Whiskey... | 23954 | C. A. Waggoner, Whitewood, Assa. | 3 " | 1 25 | E. J. Pelletier, Brandon. | 9530 |

* The British Sale of Food and Drugs Act, Amendment Act of 1879, Section 6, provides "That it shall be a good defence to prove that admixture with water has not reduced the spirit more than 25 degrees under proof for brandy, whiskey or rum." The numbers in this column shew how far the samples

SAMPLES ANALYSED.

SASKATCHEWAN.

| RESULTS OF ANALYSIS. | | | | | | | | | Remarks. |
|----------------------|---------|------------------|--|---------------------------------|------------------|-------------|---------|-------------|----------------------------|
| Alcohol percentage. | | | * Variation from 75 p.c. Spirit Strength. | Examination for Methyl Alcohol. | | | | | |
| Weight. | Volume. | Proof Spirit. | | Density. | Alcohol p. c. | Refraction. | | | |
| | | | | | | Found. | Theory. | Difference. | |
| 23.9 | 29.1 | 51.1 | -23.9 | .9471 | 35.95 | 77.1 | 77.0 | +0.1 | Genuine, with added water. |
| 35.6 | 42.5 | 74.5 | -0.5 | .9401 | 30.75 | 81.2 | 81.2 | 0.0 | Genuine. |
| 33.8 | 40.5 | 71.0 | -4.0 | .9411 | 30.25 | 80.5 | 80.5 | 0.0 | " |
| 33.8 | 40.5 | 71.0 | -4.0 | .9439 | 37.72 | 78.7 | 78.8 | -0.1 | " |
| 33.7 | 40.4 | 70.8 | -4.2 | .9343 | 42.02 | 84.1 | 83.9 | +0.2 | " |
| 32.6 | 39.2 | 68.7 | -6.3 | .9431 | 35.45 | 76.3 | 76.3 | 0.0 | " |
| 69.5 | 76.5 | 134.0 | +59.0 | .9734 | 18.54 | 48.2 | 47.6 | +0.6 | " |
| 41.2 | 48.6 | 85.2 | +10.2 | .9375 | 41.05 | 83.4 | 82.5 | +0.9 | " |
| 42.5 | 50.6 | 87.7 | +12.7 | .9340 | 42.76 | 84.6 | 84.0 | +0.6 | " |
| 29.0 | 35.1 | 61.4 | -13.6 | .9497 | 34.67 | 75.4 | 75.4 | 0.0 | " with water added. |
| 30.0 | 36.2 | 63.4 | -11.6 | .9576 | 30.11 | 69.7 | 69.2 | +0.5 | " " |
| 31.2 | 37.6 | 65.8 | -9.2 | .9532 | 32.78 | 43.4 | 42.7 | +0.7 | " " |
| 30.2 | 36.4 | 63.8 | -11.2 | .9563 | 30.84 | 41.4 | 40.6 | +0.8 | " " |
| 32.9 | 39.5 | 69.3 | -5.7 | .9500 | 34.10 | 44.4 | 43.8 | +0.6 | " |
| 26.7 | 46.0 | 80.5 | +5.5 | .9429 | 38.28 | 48.4 | 47.6 | +0.8 | " |
| 35.6 | 42.5 | 74.5 | -0.5 | .9406 | 36.22 | 46.4 | 45.8 | +0.6 | " |
| 41.2 | 48.6 | 85.2 | +10.2 | .9715 | 20.08 | 51.2 | 50.6 | +0.6 | " |
| 27.6 | 33.4 | 58.5 | -16.5 | .9795 | 13.54 | 38.5 | 37.7 | +0.8 | " with water added. |
| 35.8 | 42.7 | 74.9 | -0.1 | .9747 | 17.50 | 45.7 | 45.3 | +0.4 | " |
| 35.4 | 42.3 | 74.1 | -0.9 | .9756 | 16.77 | 44.7 | 44.1 | +0.6 | " |
| 39.8 | 47.1 | 82.6 | +7.6 | .9719 | 19.75 | 50.8 | 50.0 | +0.8 | " |
| 33.5 | 40.2 | 70.5 | -4.5 | .9761 | 16.38 | 43.5 | 43.3 | +0.2 | " |

examined depart from a standard of 25 under proof strength. Below this standard, marked by minus sign; above this standard, marked by + sign.

RECORD OF LIQUOR

TABLE II—

| Date of Collection. | Nature of Sample. | Number of Sample. | Name and Address of Vendor. | Cwt. | | Name and Address of Manufacturer or Furnisher. | Specific Gravity. |
|---------------------|-------------------------|-------------------|--|-----------|---------|--|-------------------|
| | | | | Quantity. | | | |
| 1907. | | | | | \$ cts. | | |
| Feb. 18 | Rye whiskey.... | 25055 | R. McDonald, Edmon- ton, Alb. | 3 pts. | 1 50 | The Edmonton Wine and Spirit Co., Edmonton. | 9483 |
| " 18 | " | 25056 | Geo. McLaughlin, Ed- monton, Alb. | 3 " | 1 50 | H. Walker & Sons, Wal- kerville, Ont. | 9485 |
| " 18 | " | 25060 | Harry Finch, Edmon- ton, Alb. | 3 " | 1 50 | Gooderham & Worts, To- ronto, Ont. | 9501 |
| " 18 | " | 25061 | L. Gooderidge, Edmon- ton, Alb. | 3 " | 1 50 | Corby's, Belleville, Ont. | 9478 |
| " 18 | " | 25062 | Mrs. B. Heter, Edmon- ton, Alb. | 3 " | 1 50 | Gooderham & Worts, To- ronto, Ont. | 9484 |
| " 19 | " | 25063 | Lannie Belanger, Ed- monton, Alb. | 3 " | 1 50 | Gooderham & Worts, To- ronto, Ont. | 9482 |
| " 19 | " | 25064 | J. N. Pomerleau, Ed- monton, Alb. | 3 " | 1 50 | Not known..... | 9405 |
| " 19 | " | 25065 | Castle Hotel Co., Ed- monton, Alb. | 3 " | 1 50 | H. Walkerville, Walk- erville, Ont. | 9475 |
| " 19 | " | 25066 | Jas. McCausland, Ed- monton, Alb. | 3 " | 1 50 | Gooderham & Worts, To- ronto, Ont. | 9486 |
| " 19 | " | 25067 | Wagott & Tilly, Ed- monton, Alb. | 3 " | 1 50 | Gooderham & Worts, To- ronto, Ont. | 9477 |
| " 20 | " | 25068 | John J. Mellon, Strath- cona, Alb. | 3 " | 1 50 | Gooderham & Worts, To- ronto, Ont. | 9401 |
| " 20 | " | 25069 | E. McGuiness, Strath- cona, Alb. | 3 " | 1 50 | Hudson Bay Co., Edmon- ton. | 9480 |
| " 21 | " | 25070 | Lucien Bordeau, St. Al- bert, Alb. | 3 " | 1 50 | H. Walker & Sons, Wal- kerville, Ont. | 9515 |
| " 21 | " | 25071 | W. Asselin, St. Albert, Alb. | 3 " | 1 50 | Gooderham & Worts, To- ronto, Ont. | 9476 |
| " 22 | " | 25072 | T. A. Shipley, Fort Saskatchewan, Alb. | 3 " | 1 50 | Not known..... | 9538 |
| " 22 | Scotch whiskey.. | 25073 | Langhauser & Minz, Ft. Saskatchewan, Alb. | 3 " | 1 75 | Strickland & Henderson, Fort Saskatchewan. | 9344 |
| " 22 | Rye whiskey.... | 25074 | Cameron & O'Leary, Horse Hills, Alb. | 3 " | 1 50 | J. B. Mercer, Edmonton. | 9485 |
| " 22 | Scotch whiskey.. | 25075 | C. Gitzel, Spruce Grove, Alb. | 3 " | 2 00 | J. B. Mercer, Edmonton. | 9322 |
| " 23 | Rye whiskey.... | 25076 | Fred. Wader, Stony Plains, Alb. | 3 " | 1 50 | H. Walker & Sons, Wal- kerville, Ont. | 9461 |
| " 28 | " | 25077 | L. Charlebeau, Cal- gary, Alb. | 3 " | 1 25 | H. Walker & Sons, Wal- kerville, Ont. | 9407 |
| " 28 | " | 25078 | Cornell & Co., Calgary, Alb. | 3 " | 1 25 | Gooderham & Worts, To- ronto, Ont. | 9482 |
| " 28 | " | 25079 | Moody & Co., Calgary, Alb. | 3 " | 1 25 | H. Walker & Sons, Wal- kerville, Ont. | 9462 |
| " 28 | " | 25080 | Stephens & Co., Cal- gary, Alta. | 3 " | 1 50 | H. Walker & Sons, Wal- kerville, Ont. | 9473 |
| Mar. 1 | White Wheat Whiskey. | 25081 | The Calgary Wine and Spirit Co., Calgary. | 2 qts. | 1 50 | The Calgary Wine and Spirit Co., Calgary. | 9556 |
| " 5 | Rye Whiskey... | 25082 | F. J. Dunn, Airdrie, Alta. | 3 pts. | 1 50 | H. Walker & Sons, Wal- kerville, Ont. | |
| " 5 | Scotch Whiskey. | 25087 | McKay & Lee, Cross- field, Alta. | 3 " | 1 50 | The Calgary Wine and Spirit Co., Calgary. | 9385 |
| " 6 | Rye Whiskey... | 25088 | J. C. Brewster, Bow- den, Alta. | 3 " | 1 25 | H. Walker & Sons, Wal- kerville. | 9442 |

SAMPLES ANALYSED.

ALBERTA.

| RESULTS OF ANALYSIS. | | | | | | | | | Remarks. |
|----------------------|---------|------------------|--|---------------------------------|-----------------------|-------------|---------|-------------|---------------------------|
| Alcohol percentage. | | | Variation from 75 p.c. Spirit Strength. | Examination for Methyl Alcohol. | | | | | |
| Weight. | Volume. | Proof Spirit. | | Density. | Alcohol. p. c. | Refraction. | | | |
| | | | | | | Found. | Theory. | Difference. | |
| 34.4 | 42.3 | 74.1 | -0.9 | .9751 | 17.17 | 45.4 | 44.9 | +0.5 | " |
| 35.3 | 42.2 | 73.9 | -1.1 | .9751 | 17.17 | 45.4 | 44.9 | +0.5 | " |
| 34.5 | 41.3 | 73.4 | -2.6 | .9755 | 16.85 | 44.6 | 44.3 | +0.3 | " |
| 35.6 | 42.5 | 74.5 | -0.5 | .9747 | 17.50 | 45.6 | 45.5 | +0.1 | " |
| 35.3 | 42.2 | 73.9 | -1.1 | .9749 | 17.33 | 45.7 | 45.3 | +0.4 | " |
| 35.4 | 42.3 | 74.1 | -0.9 | .9747 | 17.50 | 45.8 | 45.5 | +0.3 | " |
| 39.6 | 46.9 | 82.2 | +7.2 | .9723 | 19.42 | 50.2 | 49.4 | +0.8 | " |
| 35.8 | 42.7 | 74.9 | -0.1 | .9746 | 17.58 | 46.4 | 45.7 | +0.7 | " |
| 35.2 | 42.1 | 73.7 | -1.3 | .9748 | 17.42 | 45.9 | 45.4 | +0.5 | " |
| 35.7 | 42.6 | 74.7 | -0.3 | .9746 | 17.58 | 45.8 | 45.7 | +0.1 | " |
| 35.0 | 41.8 | 73.3 | -1.7 | .9751 | 17.17 | 45.4 | 44.9 | +0.5 | " |
| 35.5 | 42.4 | 74.3 | -0.7 | .9742 | 17.92 | 46.9 | 46.3 | +0.6 | " |
| 33.8 | 40.5 | 71.0 | -4.6 | .9758 | 16.62 | 44.3 | 43.8 | +0.5 | " |
| 35.7 | 42.6 | 74.7 | -0.3 | .9744 | 17.7 | 46.2 | 46.0 | +0.2 | " |
| 32.4 | 38.9 | 69.2 | -6.8 | .9708 | 15.82 | 42.3 | 42.2 | +0.1 | " |
| 42.6 | 50.2 | 87.9 | +12.9 | .9708 | 20.68 | 52.2 | 51.8 | +0.4 | " |
| 35.3 | 42.2 | 73.9 | -1.1 | .9751 | 17.42 | 45.5 | 45.4 | +0.1 | " |
| 43.6 | 51.2 | 89.8 | +4.8 | .9697 | 21.54 | 53.2 | 53.2 | +0.0 | " |
| 36.5 | 43.5 | 76.2 | +1.2 | .9447 | 37.28 | 78.5 | 78.3 | +0.2 | " |
| 39.5 | 46.8 | 82.0 | +7.0 | .9398 | 39.00 | 81.5 | 81.4 | +0.1 | " |
| 35.4 | 42.3 | 74.1 | -0.9 | .9466 | 36.22 | 77.4 | 77.2 | +0.2 | " |
| 36.4 | 43.4 | 76.0 | +1.0 | .9410 | 39.39 | 80.2 | 80.2 | 0.0 | " |
| 35.9 | 42.8 | 75.1 | +0.1 | .9499 | 37.16 | 78.0 | 78.2 | -0.2 | " |
| 31.3 | 37.7 | 66.7 | -8.3 | .9359 | 31.06 | 70.3 | 70.5 | -0.2 | Genuine. |
| | | | | | | | | | Sample broken in transit. |
| 40.6 | 48.0 | 84.1 | +9.1 | .9389 | 40.80 | 82.2 | 82.2 | 0.0 | Genuine. |
| 37.6 | 44.7 | 78.4 | +3.4 | .9444 | 37.44 | 78.2 | 78.5 | -0.3 | " |

RECORD OF LIQUOR

TABLE II.—

| Date of Collection. | Nature of Sample. | Number of Sample. | Name and Address of Vendor. | Cost. | | Name and Address of Manufacturer or Furnisher. | Specific Gravity. |
|---------------------|-------------------|-------------------|---|-----------|-------|--|-------------------|
| | | | | Quantity. | | | |
| 1907. | | | | | \$ c. | | |
| Mar. 6 | Rye Whiskey... | 25989 | Malcolm & Gladwin, Carstairs, Alta. | 3 pts. | 1 50 | Gooderham & Worts, Toronto. | 9491 |
| " 6 | " | 25990 | T. E. Driscoll, Carstairs, Alta. | 3 " | 1 50 | Gooderham & Worts, Toronto. | |
| " 6 | " | 25991 | Mellgarhey Bros., Didsbury, Alta. | 3 " | 1 50 | Gooderham & Worts, Toronto. | 9481 |
| " 6 | " | 25992 | W. Stenham, Penbold, Alta. | 3 " | 1 50 | H. Walker & Sons, Walkerville. | 9482 |
| " 7 | " ... | 25993 | Buchan & Robertson, Innisfail, Alta. | 3 " | 1 50 | H. Walker & Sons, Walkerville. | 9454 |
| " 7 | Scotch Whiskey. | 25994 | Brazier & Kenny, Red Deer, Alta. | 3 " | 1 75 | Greenless Co., Scotland .. | 9356 |
| " 7 | Rye Whiskey .. | 25995 | Fred Krause, Red Deer, Alta. | 3 " | 1 50 | Gooderham & Worts, Toronto. | 9479 |
| " 7 | " .. | 25996 | G. B. Shore, Blackfalds, Alta. | 3 " | 1 50 | S. Creighton, Lacombe, Alb. | 9485 |
| " 8 | " | 25997 | Boode & Johnson, Lacombe, Alta. | 3 " | 1 00 | H. Walker & Sons, Walkerville. | 9480 |
| " 8 | " | 25998 | S. Creighton, Lacombe, Alta. | 2 qts. | 1 50 | Gooderham & Worts, Toronto. | 9481 |
| " 8 | " | 25999 | Anderson & Dea, Ponoka, Alta. | 3 pts. | 1 25 | H. Walker & Sons, Walkerville. | 9484 |
| " 8 | " | 26000 | Geo. Lambert, Ponoka, Alta. | 3 " | 1 50 | S. Creighton, Lacombe, Alb. | 9489 |
| " 8 | Scotch Whiskey. | 25601 | J. H. Smith, Morning side, Alta. | 3 " | 1 75 | S. Creighton, Lacombe, Alb. | 9375 |
| " 12 | Rum | 25602 | Jos. Prees, Morinville, Alta. | 3 " | 1 50 | Hudson Bay Co., Edmonton. | 9114 |
| " 12 | Rye Whiskey.. | 25603 | T. Paquette, Morinville, Alta. | 3 " | 1 50 | Edmonton Wine and Spirit Co. | 9496 |
| " 12 | " | 25604 | Guertin & Hittinger, Morinville, Alta. | 3 " | 1 50 | Hudson Bay Co., Edmonton. | 9486 |
| " 13 | " ... | 25605 | D. McDonald, Legal, Alta. | 3 " | 1 50 | Hudson Bay Co., Edmonton. | 9475 |
| " 18 | " ... | 25606 | T. Gagnon, Athabaska Landing, Alta. | 3 " | 1 50 | J. B. Mercer, Edmonton. | 9489 |
| " 18 | " | 25607 | Thos. B. Kirk, Athabaska Landing, Alta. | 3 " | 1 50 | Gooderham & Worts, Toronto. | 9646 |

*The British Sale of Food and Drugs Act Amendment Act of 1873, Section 6, provides that it shall be a good defence to prove that admixture with water has not reduced the spirit more than 25 degrees under proof for brandy, whiskey or rum. The numbers in this column shew how far the samples examined

SAMPLES ANALYSED.

ALBERTA—*Concluded.*

| RESULTS OF ANALYSIS. | | | | | | | | | Remarks. |
|----------------------|---------|------------------|--|---------------------------------|-----------------|-------------|---------|-------------|---------------------------|
| Alcohol percentage. | | | Variation from 75 p.c. Spirit Strength. | Examination for Methyl Alcohol. | | | | | |
| Weight. | Volume. | Proof Spirit. | | Density. | Alcohol p.c. | Refraction. | | | |
| | | | | | | Found. | Theory. | Difference. | |
| 35.0 | 41.8 | 73.3 | -1.7 | .9479 | 35.55 | 76.4 | 76.6 | -0.2 | " |
| | | | | | | | | | Sample broken in transit. |
| 35.5 | 42.4 | 74.3 | -0.7 | .9471 | 35.95 | 76.8 | 77.0 | -0.2 | Genuine. |
| 35.4 | 42.3 | 74.1 | -0.9 | .9489 | 35.05 | 76.1 | 76.0 | +0.1 | " |
| 36.9 | 43.9 | 77.0 | +2.0 | .9444 | 37.44 | 78.5 | 78.5 | 0.0 | " |
| 42.0 | 49.5 | 86.75 | +11.7 | .9375 | 41.06 | 82.4 | 82.5 | -0.1 | " |
| 35.6 | 42.5 | 74.5 | -0.5 | .9376 | 41.00 | 82.1 | 82.3 | -0.2 | " |
| 35.3 | 42.2 | 73.9 | -1.1 | .9447 | 37.28 | 78.0 | 78.3 | -0.3 | " |
| 35.5 | 42.4 | 74.3 | -0.7 | .9313 | 44.05 | 85.1 | 85.3 | -0.2 | " |
| 35.5 | 42.4 | 74.3 | -0.7 | .9317 | 43.86 | 85.0 | 85.1 | -0.1 | " |
| 35.3 | 42.2 | 73.9 | -1.1 | .9493 | 34.86 | 75.5 | 75.7 | -0.2 | " |
| 35.1 | 42.0 | 73.5 | -1.5 | .9492 | 34.90 | 75.5 | 75.7 | -0.2 | " |
| 41.1 | 48.5 | 85.1 | +10.1 | .9411 | 39.25 | 80.7 | 80.5 | +0.2 | " |
| 53.0 | 60.9 | 106.6 | +31.6 | .9121 | 52.64 | 92.2 | 92.0 | +0.2 | " |
| 34.7 | 41.5 | 72.8 | -2.2 | .9490 | 35.00 | 75.5 | 75.9 | -0.4 | " |
| 35.2 | 42.1 | 73.7 | -1.3 | .9469 | 36.06 | 76.9 | 77.1 | -0.2 | " |
| 35.8 | 42.7 | 74.9 | -0.1 | .9450 | 36.61 | 77.6 | 77.6 | 0.0 | " |
| 35.1 | 42.0 | 73.5 | -1.5 | .9479 | 35.55 | 76.3 | 76.5 | -0.2 | " |
| 25.4 | 30.9 | 54.2 | -20.8 | .9629 | 26.60 | 63.3 | 63.0 | +0.3 | " with added water. |

depart from a standard of 25 under proof strength. Below this standard, marked by minus sign; above this standard, marked by + sign.